

**PART 70 OPERATING PERMIT**  
**OFFICE OF AIR MANAGEMENT**  
**and**  
**VIGO COUNTY AIR POLLUTION CONTROL**

**Gartland Foundry Company**  
**330 Grant Street**  
**Terre Haute, Indiana 47802**

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Operation Permit No.: T167-5998-00007	
Issued by: Janet G. McCabe, Assistant Commissioner Office of Air Management	Issuance Date: September 27, 2000  Expiration Date: September 27, 2005
First Administrative Amendment	Issuance Date: April 25, 2001
First Significant Source Modification	Issuance Date: August 3, 2001
First Significant Permit Modification T167-14215	Pages Affected: 39, 41, 42, 43, and 48a
Issued by:Original Signed by George M. Needham George M. Needham, Director Vigo County Air Pollution Control	Issuance Date: August 29, 2001

### **D.3 FACILITY OPERATION CONDITIONS - Spray Booth**

#### **Emission Limitations and Standards [326 IAC 2-7-5(1)]**

- D.3.1 Volatile Organic Compounds (VOC) [326 IAC 8-2-9][326 IAC 2]
- D.3.2 Emission Minimization [326 IAC 8-2-9]
- D.3.3 Particulate Matter (PM) [326 IAC 6-3-2(c)]
- D.3.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

#### **Compliance Determination Requirements**

- D.3.5 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]
- D.3.6 Volatile Organic Compounds (VOC)
- D.3.7 Particulate Matter (PM)

#### **Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**

- D.3.8 Monitoring

#### **Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

- D.3.9 Record Keeping Requirements
- D.3.10 Reporting Requirements

### **D.4 FACILITY OPERATION CONDITIONS - Sand & Charge Handling, and Core Making**

#### **Emission Limitations and Standards [326 IAC 2-7-5(1)]**

- D.4.1 Particulate Matter Limitation (PM) [326 IAC 6-3-2]
- D.4.2 Particulate Matter Limitation (PM) [326 IAC 6-3-2]
- D.4.3 Throughput Limitation
- D.4.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

#### **Compliance Determination Requirements**

- D.4.5 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]
- D.4.6 Particulate Matter (PM)

#### **Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**

- D.4.7 Visible Emissions Notations
- D.4.8 Parametric Monitoring
- D.4.9 Baghouse Inspections
- D.4.10 Broken Bag or Failure Detection

#### **Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

- D.4.11 Record Keeping Requirements
- D.4.12 Reporting Requirements

### **D.5 FACILITY CONDITIONS - Pouring, Cooling and Inoculation**

#### **Emission Limitations and Standards [326 IAC 2-7-5(1)]**

- D.5.1 Particulate Matter Limitation (PM) [326 IAC 6-3-2]

#### **Compliance Determination Requirements**

- D.5.2 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

#### **Certification**

**Emergency/Deviation Occurrence Report**

**Quarterly Report**

**Quarterly Report**

**Quarterly Compliance Monitoring Report**

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR MANAGEMENT  
COMPLIANCE DATA SECTION  
and  
VIGO COUNTY AIR POLLUTION CONTROL**

**Part 70 Quarterly Report**

Source Name: Gartland Foundry Company  
Source Address: 330 Grant Street, Terre Haute, Indiana 47802  
Mailing Address: PO Box 1564, Terre Haute, Indiana 47808  
Part 70 Permit No.: T167-5988-00007  
Facility: Casting Shakeout  
Parameter: Throughput  
Limit: 40,000 tons per 12-month period

YEAR: \_\_\_\_\_

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

- 9 No deviation occurred in this quarter.
- 9 Deviation/s occurred in this quarter.  
Deviation has been reported on: \_\_\_\_\_

Submitted by: \_\_\_\_\_  
Title / Position: \_\_\_\_\_  
Signature: \_\_\_\_\_  
Date: \_\_\_\_\_  
Phone: \_\_\_\_\_

**Indiana Department of Environmental Management  
Office of Air Management  
and  
Vigo County Air Pollution Control**

**Technical Support Document (TSD) for a Part 70  
Significant Permit Modification.**

**Source Background and Description**

<b>Source Name:</b>	<b>Gartland Foundry</b>
<b>Source Location:</b>	<b>330 Grant Street, Terre Haute, Indiana 47802</b>
<b>County:</b>	<b>Vigo County</b>
<b>SIC Code:</b>	<b>3321</b>
<b>Operation Permit No.:</b>	<b>T167-5998-00007</b>
<b>Operation Permit Issuance Date:</b>	<b>September 27, 2000</b>
<b>Significant Permit Modification No.:</b>	<b>167-14215-00007</b>
<b>Permit Reviewer:</b>	<b>Rob Harmon - VCAPC</b>

The Office of Air Quality (OAQ) and Vigo County Air Pollution Control (VCAPC) have reviewed a modification application from Gartland Foundry relating to the operation of the planned rebuilding and reconstruction of the following emission units and pollution control devices:

- (a) Casting shakeout, identified as EU570, with a maximum capacity of 8 tons per hour, utilizing a baghouse (BH3) for control, and exhausting to stack SC-4.

**History**

On December 21, 2000, Gartland Foundry submitted an application to VCAPC and the OAQ requesting to reconstruct and rebuild the casting shakeout system within their existing plant. The construction portion of this review is covered under Significant Source Modification #167-14075-00007. Gartland Foundry was issued a Part 70 permit on September 27, 2000.

**Enforcement Issue**

There are no enforcement actions pending.

**Stack Summary**

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (°F)
SC-4	Casting Shakeout	28'	3.33'	23,500	88EF

**Recommendation**

The staff recommends to the Commissioner that the Part 70 Significant Permit Modification be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on December 21, 2000.

## Justification for Modification

The Part 70 Operating permit is being modified through a combination of a Part 70 Significant Source Modification (to approve construction) and a Part 70 Significant Permit Modification (to incorporate the Source Modification into the Part 70 Permit and allow operation). This modification is being performed pursuant to 326 IAC 2-7-10.5(f)(4) which requires modifications with PTE above 25 tons per year to undergo review according to the procedures specified in 326 IAC 2-7-10.5(g).

## Federal Rule Applicability

- (a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this proposed modification.
- (b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Part 63) applicable to this proposed modification.

## State Rule Applicability - Individual Facilities

### 326 IAC 8-1-6 (New Facilities; General Reduction Requirements)

The casting shakeout system is not subject to the requirements of 326 IAC 8-1-6, because the potential emissions from this facility are limited to less than 25 tons per year of VOC emission. This limitation is in the form of a 40,000 ton per year throughput limitation and is incorporated into Condition D.4.3 of the updated Part 70 Permit.

### 326 IAC 6-3-2 (Process Operations)

The particulate matter (PM) from the casting shakeout system shall be limited by the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

The baghouse (BH3) shall be in operation at all times the casting shakeout system is in operation, in order to comply with this limit.

However, the existing Part 70 Permit has a more stringent limitation on the emissions from this operation and its corresponding baghouse. This prior limitation is set at 0.03 grains per dry standard cubic foot at an airflow of 22,500 cubic feet per minute. This is equivalent to 5.78 pounds per hour and 25.34 tons per year. This limitation appears in condition D.4.1 of the Part 70 Permit.

This prior limitation appears to date back to when all of Vigo County was designated nonattainment for particulate matter. Therefore, the reconstruction of the shakeout system should not remove the more stringent limitation. The language already contained in Condition D.4.1 of the Part 70 Permit shall remain in place without changes.

## Compliance Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAQ and VCAPC, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance

### Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The compliance monitoring requirements applicable to this modification are as follows:

1. The Casting Shakeout has applicable compliance monitoring conditions as specified below:
  - (a) Visible emissions notations of the Casting Shakeout stack exhaust shall be performed once per shift during normal daylight operations. A trained employee will record whether emissions are normal or abnormal. For processes operated continuously "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time. In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions. A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. The Preventive Maintenance Plan for this unit shall contain troubleshooting contingency and corrective actions for when an abnormal emission is observed. This requirement appears in Condition D.4.7 of the Part 70 Permit.
  - (b) The Permittee shall record the total static pressure drop across the baghouse controlling the Casting Shakeout System, at least once per shift when the Casting Shakeout System is in operation. Unless operated under conditions for which the Preventive Maintenance Plan specifies otherwise, the pressure drop across the baghouse shall be maintained within the range of 4.0 to 6.0 inches of water or a range established during the latest stack test. The Preventive Maintenance Plan for this unit shall contain troubleshooting contingency and corrective actions for when the pressure reading is outside of the above mentioned range for any one reading. This requirement appears in Condition D.4.8 of the Part 70 Permit.
  - (c) The Permittee shall inspect all of the bags in the baghouse controlling the Casting Shakeout System at least once per quarter. All defective bags shall be replaced. This requirement appears in Conditions D.4.9 and D.4.10 of the Part 70 Permit.

These monitoring conditions are necessary because the baghouse for the Casting Shakeout because it must operate properly to ensure compliance with 326 IAC 6-3 (Particulate Matter Emissions) and 326 IAC 2-2 (PSD).

### Conclusion

The construction of this proposed modification shall be subject to the conditions of the attached proposed Part 70 Significant Permit Modification No. 167-14215-00007.

**Appendix A: Emission Calculations**

Gartland Foundry  
 330 Grant Street, Terre Haute, Indiana 47802  
 Sig Permit Mod: 167-14215-00007  
 Reviewed By: Rob Harmon  
 Application Received: December 21, 2000

**Project Description:**

Gartland Foundry proposes to rebuild/replace their existing shakeout system with a new one.

**Calculations:**

Throughput 8.0 ton/hr	Potential Throughput 70080 ton/yr			
	PM	PM10	VOC	
Emission Factor	3.2	2.24	1.2	pounds of emission per ton of throughput
Potential to Emit	112.1	78.5	42.0	tons per year (emissions)
PSD Sig Level	25	15	40	tons per year (emissions)
Significant?	Y	Y	Y	before any limitations

**Limitations:**

First, the emissions are going to all be sent through an existing dust collection system. This can be made an enforceable requirement and that would reduce the emissions of both PM and PM10.

Second, the company has indicated a willingness to accept a throughput limitation, which will result in a reduction in all 3 pollutants being emitted.

Incorporating the material use limitation, followed by the control equipment results in the following:

Throughput 8.0 ton/hr	Limited Throughput 40,000 ton/yr			
	PM	PM10	VOC	
Emission Factor	3.2	2.24	1.2	pounds of emission per ton of throughput
Potential to Emit	64.0	44.8	24.0	tons per year (emissions, before control)
Potential to Emit	1.3	0.9	24.0	tons per year (emissions, after control)
PSD Sig Level	25	15	40	tons per year (emissions)
Significant?	N	N	N	

Limiting the VOC emissions below 25 tons per year also allows the project to be exempt from 326 IAC 8-1-6.